

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/054128 A2

(51) International Patent Classification⁷: **C01B 31/28**

(21) International Application Number:
PCT/IB2004/003907

(22) International Filing Date:
29 November 2004 (29.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/526,720 3 December 2003 (03.12.2003) US

(71) Applicant (for all designated States except US): **AMERSHAM PLC** [GB/GB]; Amersham Place, Little Chalfont Buckinghamshire HP7 9NA (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KIHLBERG,**

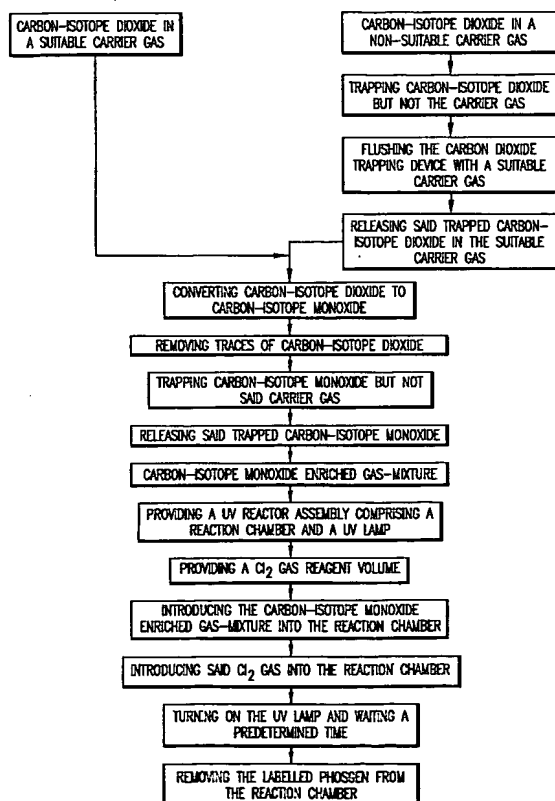
Tor [SE/SE]; Uppsala Research Imaging, Solutions AB, Akademiska sjukhset, S-751 85 Uppsala (SE). **FERM, Tommy** [SE/SE]; Uppsala Research Imaging, Solutions AB, Akademiska sjukhset, S-751 85 Uppsala (SE). **LANGSTROM, Bengt** [SE/SE]; Uppsala Research Imaging, Solutions AB, Akademiska sjukhset, S-751-85 Uppsala (SE).

(74) Agents: **CAI, Li** et al.; Amersham Health, Inc., 101 Carnegie Center, Princeton, NJ 08540 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR SYNTHESIS OF [11C] PHOSGEN USING CONCENTRATED [11C] CARBON MONOXIDE WITH UV LIGHT



(57) Abstract: Methods and systems for labeling synthesis of phosgen by UV light are provided. Methods of synthesizing labeled compounds useful as PET tracers from labeled phosgen are also provided. The resultant carbon-isotope labeled compounds are useful as radiopharmaceuticals, especially for use in Positron Emission Tomography. Associated kits for PET studies are also provided.



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.